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NEGOTIATING ENGINEERING  
AND CONSTRUCTION CONTRACTS

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BY

WILLIAM E. DUNNING

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OF THE DEPARTMENT OF CIVIL ENGINEERING IN  
PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTER OF ENGINEERING

UNIVERSITY OF FLORIDA

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BY  
**WILLIAM E. DUNNING**

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DEDICATION  
Tom Reid

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**ACKNOWLEDGEMENTS**  
Manny Delgado

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## INTRODUCTION

There is no profession with a greater necessity for negotiating skills than Engineering and Construction. The verbs **engineer** and **negotiate** are synonymous. The truth is that negotiations constitute part of every engineer's job responsibilities (Scott, 1990; Gallant, 1989).

"We negotiate with the labor union, with other departments, with our boss, with our peers, and with the people under us. We negotiate for people resources, for project money, for responsibility on an assignment, and for support from a service department." (Gallant, 1989) As buyers or sellers, we negotiate for engineering and construction contracts.

Basically, we negotiate whenever we do not have the authority to say, "This is the way it will be done." Or, we may have the authority, but hope to get a stronger commitment from our subordinates by soliciting their participation (Gallant, 1989).

Developing good negotiating skills will make each of us a better engineer or supervisor. But having good negotiating skills is not enough. We must know **when** to apply them. We should be able to answer questions such as:

- ° How should negotiations **before** the contract (is signed) be carried out from both the buyer's and seller's viewpoint.
- ° How does the buyer and seller approach negotiations **during** the contract?
- ° Is he aggressive and confrontational with a winner take all objective or is he constructive with a "win-win" objective?

The aim of this report is to answer these questions and more. It focuses on the different stages of negotiation as a construction project goes from concept to completion. Both the buyer's (Owner's) and seller's (Designer's/Contractor's) view points are considered.

The importance of preparing both technically and mentally for negotiations is emphasized. Performing the negotiations is viewed in phases. Exploration and fact-finding to confirm assumptions, and the actual bargaining towards agreement make up the negotiation performance phase. P r i n c i p l e d negotiation, constructive negotiation, and aggressive negotiation are three bargaining strategies the negotiator may choose from.

Negotiation strategies may change depending on which stage the project is at. Constructive approaches are recommended for sellers negotiating before the contract. Whereas the buyer may obtain some advantage by negotiating aggressively before the contract. During the contract it is



the seller who may gain advantage by negotiating aggressively.

Multi-sided negotiations are often part of engineering and construction contracts. The chairman or team leader must effectively control the content and flow of negotiations. He must concentrate all his energy on his role as chairman and not delve himself into the technical points of the negotiation. He uses communication skills, both verbal and non-verbal to control the members and the content of discussion.

Tactics are an inherent part of all negotiations. Even if one does not use tactics, it is necessary to understand the dynamics and reasoning behind them. Because, whether you use them or not, others will use them to gain maximum advantage.

## **CHAPTER 1**

### **GROUNDWORK FOR NEGOTIATIONS**

#### Laying Foundations

Scott's (1990) phrase, "Laying foundations", refers to establishing credibility and a positive image. These foundations are formed and placed well before negotiations begin.

Buyers will have either a positive or negative image of seller. This perceived image influences the seller's negotiation strength. The bottom line is that, "...in negotiating, the perception of reality may be more important than the reality itself." (Rutherford, 1986)

The buyer uses his own staff of engineers and financial advisors to develop his project. During, this early stage of project development, he is likely to have many prospective sellers and has to narrow his choice to a short list (Scott, 1990).

The Seller Engineer is rarely in a position to bargain in commercial terms with the buyer during this early stage. However, he may be asked to join in technical negotiations during pre-qualification rituals.

If so, the wise seller explores the buyer's requirements and what his needs are. His strategy is to display some

ability appealing to the buyer that will give him an edge over his competition.

Scott (1990, p.10) gives the example of his company being the first experts on dry dock construction. This placed them in a privileged position as negotiations developed with the owner of a proposed dry dock.

### Climate Formation

Scott (1990) generally prefers the negotiation climate to be constructive vice aggressive. This is especially true during the partner-building stage before the contract.

#### Constructive Climate

Constructive negotiating occurs when the parties consider themselves partners. People who are anxious to work together towards a win-win agreement. A constructive climate takes on the following characteristics:

- ° Cordial
- ° Cooperative
- ° Brisk/Businesslike

#### **Cordial**

Scott (1990) recommends the following guidelines to establish a cordial climate:

The cordial characteristic will not be achieved if the parties are in business the first moment they meet. People need time to establish a common wavelength, time free from the heavy load of negotiating their different business interests. For a minor negotiation, this time may be the ice-breaking ritual at the start of a half-hour meeting. For a major contract the lead time may be

spread over contacts which have taken place during months or even years.

### **Cooperative**

Cooperation between the parties is enhanced if they can establish their ability to agree. Early agreements on relatively straight forward issues such as procedure or scope establish a cooperative climate.

### **Brisk/businesslike**

Of course, efficient engineers cannot afford simply a cordial and cooperative climate. They require a brisk and businesslike climate as well.

### **Aggressive Climate**

Aggressive negotiating occurs when each party mistrusts and suspects the other. Each party is determined to assert their side and exploit the other's. Each party wants to get concessions, not to give any. This climate is seldom preferred but often occurs and must be identified.

### **The Aggressive Pattern**

The climate in an aggressive negotiation is also brisk and businesslike. However, it is not very cordial or cooperative. Scott (1990) gives the illustration of a tough and abrasive negotiator. As a matter of principle, he rejects the first suggestion made. "If you ask him whether he would like to sit down, he'll spend the whole meeting standing up."

The aggressive negotiator tries to exploit from the beginning. He looks for weaknesses the moment he enters the

negotiating room. Even the casual phrase 'How's business?', from him may be an attempt to find weaknesses (Scott, 1990).

The exploration and fact-finding phase described in Chapter Two will be cut short by an aggressive negotiator. He will want to move straight into the bargaining phase. He will bargain aggressively. Often using tactics described in Chapter Five. Instead of mutually agreeing on procedure as described in the next section, he will assert his own (Scott, 1990).

#### Establishing Procedure

The first thing to agree upon in a negotiation is procedure. Scott (1990) suggests a routine of breaking the ice, sitting down at the table and opening with the question, "Well, can we just agree on procedure to start with?" Assuming we word it more tactfully, the only answer is, 'Yes'. We have just sat down and are already agreeing. The cooperative climate has been established.

Avoiding confusion is another reason to begin by agreeing on procedure. In any negotiating meeting, the following procedural areas may have been assumed:

- ° Purpose
- ° Plan
- ° Pace

### **Purpose**

Do not assume that the other party is coming to the meeting with the same purpose in mind as you. They may be coming to evaluate our technical competence and to receive details of a technical proposal from us. We may be looking for a briefing on the technical requirements, so we will be able to prepare a technical proposal (Scott, 1990).

### **Plan**

The plan or agenda must also be clarified to avoid confusion and make the best use of the next component, time.

### **Pace**

The time agreed to complete a negotiation determines negotiation's pace. If no time limit is set, the negotiations may continue aimlessly without reaching agreement. Controlling negotiations will aid in keeping a good pace (Scott, 1990).

## Control of Negotiations

Controlling the way a discussion develops is very important for two reasons. First, the efficiency of discussion. Taking the essentials at a measured pace and avoiding trivia and sea stories. Second, control is powerful. He who steers the discussion is in a powerful position.

Controlling what is discussed is relatively simple. Just follow your plan or agenda. The pace, however, may be extremely difficult to control. The content of the discussion

alone demands a great deal of your attention, leaving very little concentration for control. Scott (1990) suggests it can become a reflex action to check the clock periodically.

There are two periods at which it seems helpful for this reflex to operate. One period is hourly, when it becomes sensible to take a refreshing break. The other period is every 15 or 20 minutes when one of the following questions is appropriate:

- ° Can we just summarize how far we have gotten?
- ° Are we making enough progress on this issue to meet our agenda?
- ° Should we be moving on to consider...? (Scott, 1990)

### Preparing for Negotiations

#### Technical Preparation

We take it for granted that any engineer will do his technical homework. He will first evaluate items under his control. He will develop his negotiation boundaries, the highest and lowest acceptable positions and will know the rationale for each demand leading to these positions (Scott, 1990; Rutherford, 1986).

If negotiating a contract, he may determine terms and conditions that are essential, and the nice to have, but, not necessary terms and conditions.

Then, after planning his own strategy and establishing his position, he should develop an objective analysis of the

other party's positions. He should envision the terms and conditions the opposite party may present that are acceptable but not really desirable. By evaluating the positions of both sides, he will help both parties get what they want (Stallworthy, 1987).

### Mental Preparation

Again, it is taken for granted that he will prepare technically for his negotiation. But how does he prepare for his role as a negotiator? The engineer has to be prepared to offer, receive, and interpret information. At the same time he has to control the pace and content of the discussion. For any negotiator, it is more than a full load. It is an overload. Overload is a certainty in any negotiation. However, we can reduce the degree of overload (Scott, 1990).

One way to reduce overload is to have a set of routines to follow. A routine of always agreeing on procedure at the beginning of a negotiation is a good example. Another way is to get our thinking prepared before the negotiation.

In any negotiation, the mind will have to operate in three different modes:

- ° As a transmitter
- ° As a receiver
- ° As a controller

#### **Transmitter**

As a transmitter the mind must present our side of the negotiation. The mind needs to be clear before that



presentation. Scott (1990) suggests the technique of listing four key words which highlight the four most important points to be presented. The benefits of only presenting the four most important points is illustrated below:

...do not present all the evidence in your favor. If there are a dozen points in your favor, you can be sure the other party will instantly seize on the twelfth, the weakest. So the negotiation concentrates on the twelfth and you are exposed to negotiating on the strength of your weakest point. It won't do. Concentrate your presentation on the four favorable points which are irrefutable and forget the rest.

Although this method may not be applicable for all presentations, it seems particularly well suited for handling controversial issues. It also can help to reduce overload. But for four key words, the mind is clear and ready to present.

However, if our preparation stops here, we are not ready to listen. Our mind is prepared only for presentation and nothing else; we try to blank out anything that interferes with our presentation. This is why a skilled negotiator prepares to listen as well as to present.

#### **Receiver**

His listening preparation starts by thinking through the information he needs to receive during discussion. Again, Scott (1990) suggests organizing that thought into four key words.

This preparation alerts the mind to its function as a receiver. "We know what we are looking for, and so we are also alert to incoming messages." In practice, we seldom get

all the information we were looking for (all four key words). But we do grasp the other party's viewpoint, a grasp denied to those who have not sensitized their listening (Scott, 1990).

### **Controller**

Finally, the mind must be prepared to control the discussion. This preparation includes listing slightly more than four key words:

- ° Purpose            One key word
- ° Plan                Four key words
- ° Pace                A couple of figures for duration

Chapter Four illustrates how to effectively control a meeting using the above criteria.

### **Pros and Cons**

The preparation suggested by Scott (1990) is having four key words each for presentation, listening and a corresponding clarity for procedure. But what about the time it takes?

Up to two hours may be consumed the first time the method is used to prepare for a negotiation. However, the learning curve is steep and most negotiators find repetitive situations to use over and over again.

The benefits are:

- ° Mind prepared to transmit essentials
- ° Mind anxious to receive essentials
- ° Mind prepared to control negotiation
- ° Overload during negotiation reduced (Scott, 1990)

### Developing Alternatives

Preparation is key to negotiating your "best" agreement. However, not reaching an agreement may be your "best" option. We negotiate to improve our present position. But, there is the possibility of leaving a negotiation with less than you started. It is easy to lose sight of this if you are totally committed to reaching an agreement. For example, you worry about not reaching agreement on a big contract you have invested a great deal of time in. Under these circumstances, you are apt to be too cooperative, too accommodating, and too quick to go along. You may agree to a deal you will later regret (Fisher and Ury, 1981).

What we need is a standard to measure any proposed agreement. Developing alternatives to a negotiated agreement before negotiations gives us that standard. Such a standard can protect us from taking a bad offer. It can also prevent us from rejecting an offer we should have agreed to. Fisher and Ury (1981) call this standard one's Best Alternative to a Negotiated Agreement (BATNA).

The BATNA is your option of not reaching agreement. The attractiveness of this option determines the relative power of the opposing negotiators. Value Engineering theory may be used to develop possible BATNA's. This involves brainstorming or other techniques to create a list of alternatives. The more promising ideas are judged and ranked. Focus should be on the best, most practical alternative. It may be so good that

negotiations are not necessary to reach our goals (Fisher & Ury, 1981).

Having a practical alternative to a negotiated agreement, gives us the option of walking away. Knowing its attractiveness, gives us the knowledge to decide when. The option of breaking off negotiations gives one self-confidence and greater power to influence the outcome (Fisher & Ury, 1981).

## **CHAPTER 2**

### **PERFORMING THE NEGOTIATION**

#### Introduction

So far we have laid solid foundations of trust and mutual respect. We have prepared both technically and procedurally. We have got our thinking together beforehand and are ready to transmit, receive and control information. We have established a cordial, cooperative, yet, brisk and businesslike climate. Now we are ready for the crux of the matter, negotiating the contract (Scott, 1990).

#### Exploration and Fact-Finding

After introductions and opening remarks we should not jump headlong into what may be the major issues of the negotiation. Instead, we need to verify what the major issues really are (Naval Facilities Contract Training Center (NFCTC), 1987).

This means we must validate each assumption made in arriving at our present position. Assumptions are a vital part of the negotiation. We will make assumptions, but we must be careful not to rely on them as absolute facts until they are validated. We validate our assumptions during the

exploratory or fact-finding phase of the negotiation (NFCTC, 1987).

The best way to validate assumptions is through the use of questions. Statements should be avoided. Questions educate. Statements of fact may put people on the defensive and lead to argumentation. For example, "Your quantity of concrete is twice what ours is!", may cause the other party to get defensive and put him in the position of justifying his position. Whereas, "Did you use 20' X 40' X 4" to calculate your quantity of concrete?", would allow him to answer a simple straight forward question (Fisher and Ury, 1981;NFCTC, 1987).

Questioning, probing, listening and understanding are the basic communication skills involved in the exploratory phase. Sometimes it is advisable to plan questions in detail, as in a "closed" interview. But in other cases the "open" interview approach is better. The questions in this case are broad and are designed to stimulate broad responses. This technique is more effective in producing unsolicited answers (and more information than they may have wanted to divulge) than the detailed questioning method (NFCTC, 1987).

The probing technique is necessary when questions receive vague or guarded answers. This technique involves a series of questions concerning the same subject matter. Each vague answer receives another question which "digs in" deeper to elicit an adequate answer. Probing also involves asking the

same question in different ways. If an answer is not satisfactory, use different approaches. Rephrase the question or postpone it for awhile and ask again until adequate answers come forth (NFCTC, 1987).

Misunderstandings often cause unintentional disputes. An excellent way to make sure you understand your opponent's position is to rephrase it and ask if your understanding is correct. Understanding is a must. Without such understanding, a viewpoint cannot be countered effectively. This may lead to pointless and unintentional arguments.

Finally, the exploratory session is strictly exploratory. During questioning there is a strong temptation to counter your opponent's position immediately. But to do so would destroy the purpose of the session. You would find yourself inadvertently negotiating points sooner than you had intended. As a consequence your exploration will be disorganized and incomplete (NFCTC, 1987).

### Bargaining and Agreement

From the exploration and fact-finding stage we move on to the bargaining and agreement stage. Just how successful the negotiating process is to proceed and whether it will be successful will be determined primarily by your bargaining strategy. Some people maintain that an aggressive strategy yields the best results. Others opt for a constructive strategy.

## Principled Negotiation

Perhaps one of the most effective strategies is principled negotiation. It is based on deciding price issues on merits, rather than through a haggling process focused on what price each side says it will and will not accept. Principled negotiation is a strategy that should be successful regardless of what tactics are adopted by your opponent because it looks for mutual gains whenever possible. It is hard on merits and soft on people (Fisher & Ury; 1981, Warden, 1989).

Primary objectives of the principled negotiation approach to bargaining are to:

- ° Separate the people from the problem
- ° Focus on interests, not positions
- ° Invent options for mutual gain
- ° Insist on objective criteria.

### **Separate the people from the problem**

Separating the people from the problem endeavors to address interests and untangle emotions from the objective merits of the issues being negotiated. Separating people from the problem looks at issues side by side rather than face to face. The participants should "...see themselves as working side by side, attacking the problem, not each other." (Fisher & Ury, 1981)



### **Focus on interests, not positions**

Focusing on interests and not positions usually will uncover alternative solutions to a negotiating problem. For example, a certain price may be a seller's position when negotiating an indefinite quantity contract. But why does he need that price? Is it the risk he anticipates? Will the price be less if there was a guaranteed minimum? Would allowing him to use an on-site storage shed to reduce his travel costs satisfy him? What about quality, delivery and service, which are important interests and should be key elements in the bargaining process? Discovering the seller's motivating interests may reveal alternative positions which satisfy everyone's interests. (Fisher & Ury, 1981; Warden, 1989)

### **Invent options for mutual gain**

Inventing options for mutual gain before deciding what to increases the chance of meeting the interests of both sides. Fisher & Ury (1981) give the example of two sisters quarreling over an orange. After arguing for an hour on who gets the orange they decided to cut it in half. One sister ate the orange and threw the peel away. The other sister used the peel to bake a cake and threw the orange away.

Negotiators often end up like the sisters. If their interests and options had been examined, each would have had the whole fruit or the whole peel rather than only half of each. Inventing options can be accomplished through brainstorming or other techniques.

### **Insist on objective criteria**

Insisting on an objective criteria is vital when one argues his position rather than interests. By discussing alternatives through objective criteria like value engineering instead of a stubbornly held position on price, both parties are yielding to a fair solution (Warden, 1989).

### **Constructive Bargaining**

Constructive principles of bargaining include the following:

- ° Ensure value
- ° Identify issues
- ° Trade concessions
- ° Move at a measured pace (Scott, 1990)

#### **Ensure value**

Aim for a win-win situation for both sides. Your side should value what the opponent offers and vice versa. Both sides are satisfied when they have worked hard and value what they have received. People put greater value on things they have to work for. If your opponent's proposal is accepted without question, he will immediately feel he has made a mistake. He will not be satisfied unless negotiation occurs.

#### **Identify issues**

Clearly establish the scope of negotiations. List issues and proposals from both sides. Ask your opponent if he has

any major or minor objections to your proposals. If so, prioritize the objections into major and minor discrepancies. Identifying and prioritizing issues ensures that the primary interests of both parties are addressed (Scott, 1990).

#### **Trade concessions**

All negotiations involve giving and getting. However, **never** give without getting. The only reason to give a concession is to get one in return. A concession given freely without conditions may be seen by the other party as weakness on your part (Rutherford, 1986). The more willing you are to give, the less he will value your gift (Scott, 1990).

Scott (1990) suggests the following phrases once you are ready to trade concessions:

- ° 'Well, we have been talking about this issue of (price) for some time and we do need now to make progress, but can we first discuss when payments will be made?' (Meaning: 'Okay, you've made your point on price -- I'm prepared to budge on that provided you will give me a bit on payment terms.')
- ° 'If you will... then we will...'
- ° 'If you will give us another couple of months we can reduce the price by x%.'

#### **Move at a measured pace**

Moving at a measured pace refers to the situation where two parties have negotiated extensively but still have a difference in price. For instance, the buyer is at \$120 and the seller is at \$100. \$110 is obviously a likely compromise. However, one should not propose that compromise too early. The following example by Scott (1990) illustrates why:

If the buyer recognizing that each party is standing for their respective figures of \$100 and \$120, now makes the compromise suggestion of \$110, what does the seller respond? '\$110? But that's impossible. As I've already explained the least we can possibly manage is \$120.' And the buyer is now stranded. He has given away the middle ground. The seller knows that \$110 would have been acceptable and the negotiating ground is now between \$110 and \$120. The probable settlement area has gone up from \$110 to somewhere between \$110 and \$120.

Instead, move at a measured pace through the bargaining stage. For instance, the buyer could offer \$105, and the seller may then counter \$115. Then \$108/\$113 before reaching a compromise around \$110.

#### Aggressive Bargaining

The aggressive negotiator considers the bargaining phase to be the heart of all negotiating. Exploration is a relatively minor phase, to be done with as quickly as possible. Once the bargaining starts, the basic attitude is of course get/give. Scott (1990) describes the aggressive bargaining style as vertical rather than lateral. For instance, taking any one issue such as price and diving deeply (vertically) into that issue. As opposed to making gradual progress on a broader (lateral) front.

There is always a chip-away strategy. That is, get the other party's offer and then keep chipping away at it, knocking it down a bit at a time (as opposed to the constructive strategy of counter-concessions).

Time is used as a club in aggressive negotiations. If the other party wants to move quickly, then delay them. They

will have to concede something if they want us to move at a faster pace.

The aggressive negotiator quickly assesses the other party's offers as acceptable and not acceptable. The unacceptable items are split into two groups: the no-concessions list and the negotiable list.

Within the negotiable group, he prepares for each negotiable issue. He assumes that it will take several rounds of negotiating to move from present difference to an acceptable compromise, and he sets targets for how far each party should concede in each round. Scott (1990) gives the following example of an aggressive buyer hoping to settle at \$100 whereas the seller is strong for \$120. The buyer might set the following targets:

- 'The best I can hope to get on this is \$107.
- 'After one week I will expect him to come down to \$115 and I will be prepared in return to go up to \$103.
- 'At the end of the second week he will have to come down to \$110 and I will have to go as far as \$105.
- 'That way by the end of week three we should be able to settle out at \$107.

The aggressive bargainer also uses many of the tactics described in Chapter Five.

## **CHAPTER 3 NEGOTIATIONS BEFORE & DURING THE CONTRACT**

### **Introduction**

Negotiation strategies may change depending on which stage the project is at. Constructive approaches are recommended for sellers negotiating before the contract. Whereas buyers may obtain some advantage by negotiating aggressively (Scott, 1990). However, buyers should be reminded that every dollar of design equals roughly \$100 in construction costs. Therefore, it is in the buyer's long term interest to not pinch pennies on design. At the same time sellers (designers) should not try to get rich on one project (Chamberlain, 1985).

### **Negotiations Before the Contract With Competition**

Negotiations with competition is the stage before the contract has been signed where the buyer has limited his choice to a short list. Possibly three to four suppliers. The seller engineer now has one objective, to be the one selected (Scott, 1990).

However, he must weigh that objective against the next objective, being selected with enough margin to make a profit. The pressure of the first objective can become tremendous.

Such pressure often causes the seller to cut his profit margin to the bone (Scott, 1990).

The smart buyer pursues the best possible deal. He looks at the lowest price, the best technical package, and the best terms and conditions. He wishes for a supplier offering the best of all worlds. The reality is that no reliable supplier can offer the cheapest price with the best terms and technical package (Scott, 1990).

This makes it difficult for the buyer to compare the different offers. He uses his advisors to help him make his decision. But when all is said and done the bottom line is -- who is the most reliable supplier?

Now is when laying foundations and setting the proper climate come into play. Did we establish trust and credibility over the past few months? Did we listen, find out what the buyer's needs were? Did we identify and prioritize his objections to our proposals and address the major issues? If so, we, as the supplier, are in a much better position to be selected (Scott, 1990).

#### Negotiations Before the Contract Without Competition

Negotiating without competition is the stage before the contract has been signed where the buyer has selected one seller to negotiate the project with. There is still a lot of negotiating to do before the contract is signed. Up to this point, the seller has been negotiating in a constructive

manner, often against stiff competition, and 'sometimes in the face of an aggressive buyer.' (Scott, 1990) Now, all is different. As seller, we have been promoted from supplicant to partner. We are now the experts in our own field. Not just one of the suppliers being judged.

Although, we can still be replaced, it would weaken the buyer's position when dealing later with his second choice. Do we now change from a constructive to a more aggressive negotiation mode? Scott (1990) suggests no.

The situation calls for a continuity of constructive negotiation. The two chief parties are still moving to build their basic agreement (the signed contract). They need to do this in the spirit of newly formed partnership, working to their joint advantage. This style pays off in two ways. It should enable them to create the most mutually profitable contract. It should enable them to enter the performance phase, during the contract, with the best climate, the best goodwill.

#### Negotiations During the Contract

Scott (1990) suggests that the seller always negotiate constructively before the contract. The buyer, on the other hand, may gain temporary advantages by negotiating aggressively. Now, during the contract, it is to the buyer's advantage to negotiate constructively. At the same time, the seller as designer or contractor, may on occasion, gain advantage by negotiating aggressively.



## Negotiating Change Orders

Negotiations during the contract almost always involve change orders. Since change orders make up a big part of the negotiator's time it is essential to have knowledge of change orders. Specifically, the buyer or seller should have a complete working knowledge of:

- ° Determining liability for changes.
- ° How change orders are born.
- ° How to combine all relevant cost, time and liability components.
- ° How to evaluate and quantify total schedule impact.

### Determining Contract Liability

We must look at contract liability to determine if work is an extra. Contract liability can be more or less than what is written in the contract. Even if not expressed in the contract, the contractor (seller) can be subject to implied liability or negligence. If a clause in the contract is not legal, ie., causes harm to someone, it is not enforceable. The contract expresses responsibilities for each party. When not barred from a specific contract, the law imposes several warranties, duties, and responsibilities on the owner, contractor, and engineer, whether or not they are highlighted in the contract language. The courts will use these "rules of construction" to interpret contracts (Civitello, 1987, p.16).

Aggressive negotiation will not resolve an issue of contract interpretation in a win-win fashion. It requires

constructive efforts by each party. For example, if the buyer tries to shove an extra down the seller's throat, the seller has two options: be nice, give in and eat the cost; or fight back and risk arbitration or litigation (Scott, 1990).

Most sellers like to avoid arbitration against current buyers. It is bad for future business and for the seller's reputation. It is also very expensive (Scott, 1990; Civitello, 1987).

Most buyers realize the seller's desire to avoid arbitration or litigation. Some buyers use this to their advantage. Scott (1990) doubts that it gives any real long term advantage to the buyer. "If the seller feels that he is forced into an unfair 'agreement' he will try to get even on other issues, and that is likely to cost the buyer more than he has earned on the first issue."

#### How Change Orders Are Born

Change orders are a normal part of the construction business. Buyers and sellers will find themselves way ahead of the game if they accept this fact. Once a contract has been signed, the buyer has already taken advantage of the available competition to get a low price for specified work. The seller had to assume the most competitive method to construct the unclear details to get the job. He had to bid on specified work (and not put in contingencies for omissions). If he did not take this approach, he could expect his competition would.

Accordingly, he must scrutinize clarifications in minute detail. He must get paid for increased scope of work.

The following are common causes of change orders:

Defective Specifications

Defective specifications simply refer to documents containing flaws. Common reasons for defective specifications are:

- Cut-n-paste
- Old age
- Inconsistencies

**Cut-N-Paste**

Two factors increase the probability that cut-n-paste will directly cause errors in the documents.

1. The technical specifications are an architect's **secondary priority**. The design process is what the architect is best at. Bringing the initiated concept through final design is what gives the architect great pleasure. It is only when the design is complete that the technical specifications and the contracts themselves are finally assembled. It is not the priority, but an unfortunate, tedious necessity, as far as the architect is concerned.

2. The technical specifications are **assembled at the eleventh hour**. The design process itself usually continues until the last possible moment. It is only when the deadline of the bid solicitation date looms that

serious attention is diverted to completing the specification. What is worse, junior architects and even clerks may be enlisted to prepare certain portions of the documents.

#### **Old Age**

If a specification's age becomes a problem, it will usually be on a public project. This is because public projects are subject to the winds and tides of political funding. It is not uncommon for a state or federal project to be shelved for two, three or more years while it waits for the political climate that will authorize it to proceed.

#### **Inconsistencies**

If a specification is subject to more than one reasonable interpretation, the contractor (seller) has the right to choose the interpretation. Such inconsistencies may take the form of:

- ° Discrepancies between requirements of the plans and specifications
- ° Differences between small and large details
- ° Differences between planned and finished schedule requirements.
- ° Differences between the actual equipment cuts and those details originally shown in the contract.

#### **Impossibilities**

A designer may be blindly following design criteria without consideration for following construction methods, or

not properly coordinating an item with adjacent work. Example of difficulties include:

- ° Foundation wall configurations that don't allow removal of forms.
- ° Installing anchors in inaccessible areas.
- ° Equipment that can't fit in the available area (can't fit 10 lbs in a 5 lb sack...or can't fit through the door...)
- ° Illogical construction sequences.
- ° Inaccessible equipment (after installation) for maintenance.

#### Combining Costs For Change Orders

The seller should submit three types of costs for **every** change order proposal. These are (Civitello, 1987,p. 196):

1. Direct costs.
2. Indirect costs.
3. Consequential costs.

#### **Direct Costs**

These costs are directly attributable to the changed work. They include such items as:

- ° Labor.
- ° Material.
- ° Site supervision.
- ° Off-Site material carrying costs.
- ° Shipping costs.
- ° Restocking charges.

- ° Additional performance and payment bond premiums.
- ° Temporary protection.
- ° Temporary heat, light and power.
- ° Material rehandling costs.
- ° Safety equipment, staging, scaffolding, and lights...

#### **Indirect Costs**

Indirect costs are those items that, although precipitated specifically by the change, are less obviously the case. They are harder to apportion to a specific event and therefore more difficult to count. The differences of opinion revolve around the question of whether or not to consider the item as a specifically attributable cost, or to simply lump it into "overhead." Additional bond premium costs, for example, get caught up in this argument. There are two types of indirect costs. Project overhead and general overhead. Project overhead costs result specifically from the project itself. They include such items as:

- ° Job management (superintendent, foreman).
- ° Move-in
- ° Maintaining job (maintaining roads, etc).
- ° Equipment (clerk, pick up, etc.).
- ° Off-site supervision.
- ° Change order preparation, research, negotiation, and associated travel.
- ° The effects of project interference and disruption.
- ° Time delays.

- Effective increase in guaranty and warranty durations.

General overhead costs equate to a percentage of the costs to manage all of the construction company's projects.

They include such items as:

- Home office overhead.
- Taxes, insurance.
- Financing costs.
- Miscellaneous (escalation, inflation).

#### **Consequential Costs**

Consequential costs are the third cost category of every change and are the most difficult of all to justify. These costs result from the varied effects precipitated by a change. Normally to be compensable, the damages they cause must have been foreseeable to both parties. (Simon, 1979, p.242)

Specific kinds of consequential costs include:

- Strikes.
- Interference and disruption.
- Project delay costs
- Approval delays that alter the originally anticipated sequences or conditions.
- Delay in retainage release.
- Delay in project close out (keeping capacity tied up-- opportunity costs).
- Delay in contract work (cash flow interruption and opportunity costs).
- Canceled contracts.

- ° Lost profit.
- ° Acceleration.

The strategies for applying all three costs on every change order will vary between private and public projects. A seller may place a valued relationship in jeopardy if he aggressively pursues damages on a private project. However, on public bid and other low-bid jobs, the approach can be quite different.

Applying the three costs of every change order will help accomplish three objectives. First, it can allow you to collect all the direct costs that may otherwise get lumped into "overhead" and minimized (or left out of the calculation completely). Second, and in some cases more important, it reserves your rights to claims that may come up later. It may defend you against claims that may come up against you as well. Third, in a private contract situation, it will allow you to present to the owner (buyer) a catalog of all justifiable costs that you are not pursuing now because of your "good" relationship. If used this way it can make the costs of the first two types (direct and indirect) much more palatable.

A low-bid, public project will be the easiest type to apply the procedure with minimal risk to future business. The best way to implement the technique is to use a format which shows the three costs on every change order. The format must become a matter of operating policy. This will remove a large



degree of personal animosity towards you, especially if the owner (buyer) thought you dreamed up the form because he had "deep pockets." If, on the other hand, the form can be demonstrated to be an established company procedure, the owner (buyer) will find it hard to blame you.

#### Determining Schedule Impact

Address additional time on every change order proposal. Use a direct cause and effect relationship to demonstrate the additional time required by a specific change. Two schedules can convincingly demonstrate this: the as-planned schedule and the adjusted schedule. The differences in end dates, of course, is the time attributable to the respective change.

The level of complexity of the schedules will depend on two things. First, if the buyer is sophisticated, use of a complex scheduling system, such as the critical path method, may feed his ego. If not, a simple bar chart may suffice. The second concept involves the nature of the change impact itself.

If the change involves complex interactions, you may have to use a complicated scheduling system. However, it may be helpful to use a proposal that simply begins with a statement of fact. That so many days have been added to the completion date by the change. Beyond that, the backup analysis in all its detail can be attached. The bottom line is to use the simplest and most straight forward technique that will not compromise accuracy.

If conditions are right, those who do the hard work of reviewing your proposal may appreciate a simple analysis. Figure 2 presents the time to complete the changed work:

1. (Date) ready to perform contract work	0 WD
2. Finalize change order/submit proposal	11 WD
3. Owner approval of proposal, req'd by (date)	5 WD
4. Fabricate, deliver, and install the CO work	10 WD
5. Complete affected work	10 WD
6. Total time to complete this change	-----
if approved by (date in 3)	36 WD

**FIGURE 2, SIMPLIFIED SCHEDULE IMPACT ANALYSIS**

The analysis is technically accurate for a change that impacts the critical path directly, with no effort demonstrated to resequence subsequent schedule logic. Buyers appreciate (and approve) the simplified format more often than you might think. (Civitello 1987, p.4)

Once you establish the number of days attributable to the change, cost or \$/day is the final component. The on-site expenses are the most straightforward to compute. All that is needed is the total of personnel, equipment, facilities and supplies, and the application of your historical costs. Your accountant should calculate home office overhead. Figure 3 presents a formula to calculate home office overhead (O/H) allocable to a project's day:

$$\begin{array}{rcl}
 \text{Total billings for} & \text{Total unallocated} & \text{Allocated daily} \\
 \text{delayed project} & \text{home office expense} & \text{home office cost} \\
 \text{X} & \text{for the period} & \\
 \text{Total billings for} & \text{\# Days in delayed} & \text{= overhead cost per} \\
 \text{all projects for} & \text{project} & \text{day on delayed} \\
 \text{same period} & & \text{project}
 \end{array}$$

**FIGURE 3, SAMPLE HOME OFFICE O/H DAILY RATE CALCULATION**

Finalizing the Proposal

Include all the above components under a cover letter which expresses the following:

- ° Refers to the earliest change order notification date.
- ° Summarizes the change order total cost.
- ° Refers to attached backup data.
- ° States the additional time that the change adds to the contract.
- ° Requires buyer's approval by a precise date.
- ° Notifies the buyer of consequences of failing to act by the required date.
- ° Incorporates all standard and special terms and conditions and reservations of rights.

### Conclusion

Most negotiations before and during the contract should be conducted in a constructive manner. However, if the other party is being aggressive, you must obviously fight back.

Aggressive tactics can lead to disputes. You must be ready to defend yourself. Submitting cost proposals and time extensions for each change documents knowledge and records facts. The importance of collecting knowledge and records cannot be overemphasized.

## CHAPTER 4 MULTI-SIDED NEGOTIATIONS

### Introduction

This report has focused on negotiations between two parties. However, it is common for engineering and construction contracts to involve negotiations between several parties. This chapter examines the role of the "chairman" as providing the leadership and control of the negotiations. This is a demanding task. It requires one's total energy and concentration. The chairman's goal is to impartially conduct an effective meeting (Scott, 1990).

### The Key To Chaird Negotiations

The key to conducting an effective meeting lies in the skill of the chairman. The chairman is usually a very senior person with exceptional technical skills. He normally contributes his technical expertise to any discussion. However, in the capacity of a chairman leading a negotiation, Scott (1990) suggests that he should not. "Nobody has the capacity both to be a leading advocate and to be a competent chairman at one and the same time."

Therefore, a chairman should avoid being the expert for his side. He should delegate that role to someone he trusts and ensure that he addresses all the technical issues.

#### Unanimous Assent in Minimum Time

The chairman's main objective should be to reach unanimous assent in minimum time. Unanimous because people will be committed to action if they have been part of the solution. Assent because agreement may not be possible. Scott (1990) gives the following illustration:

Suppose Alan and Arthur both believe in path A whereas Brian and Barry are for path B (and David and Douglas don't much mind). If the chairman hopes Brian and Barry will agree to path A, he is doomed to a long and disappointing acrimony. Equally, Alan and Arthur would not agree to path B. The chairman's technique here is to get some opinion from a neutral, say David. Say it points towards B. Then quickly get confirmation from Douglas towards B. And at earliest to get the more constructive of the A's--say it is Alan--to accept that the majority view is pointing towards B.

A reasonable Alan, a reasonable Arthur, can accept that the majority view is pointing in a certain direction. He can assent without that loss of face which is forced on him if people demand agreement.

#### Establishing a Positive Meeting

Describing the purpose of the meeting in a positive light is the chairman's first priority in kicking off the meeting. The following illustration by Scott (1990) shows why:

If the delivery of pumps is late, then half a dozen busy people can gather, only to hear the chairman open the meeting: 'We are here today to talk about the late delivery of the pumps'. They might as well write off the rest of the day after an opening like that.

A very different meeting will follow if the opening remark is: 'We are here today to plan for the future of the project, taking account of revised delivery for the pumps'.

During the meeting the chairman needs to limit the discussion to the purpose of the meeting. He must head off any possible side-track issues. Discussing reasons for the late delivery is one dangerous side-track to avoid. That way lies a certain afternoon of mutual accusations, recriminations and bitterness. To avoid this heated waste of time the chairman should foresee the side-track and cut it off in his opening remarks, 'And we don't want to start passing the blame this afternoon do we?' (Scott, 1990)

#### Opening the Meeting

The opening first few minutes of any meeting establish the tempo of the meeting. And the first few seconds of the opening are the most critical.

The first few seconds of the meeting must concentrate attention and generate momentum.

Many things can go wrong in those few seconds. There are always a few members who will be chattering. Calling them to order can be interpreted as a dictatorial thrust. It may be resented both by those who were chattering and by those near them.

Equally, some member is likely to be still rustling his papers, fiddling in his briefcase. His attention is not ripe to start the meeting.

The technique to achieve the opening concentration is simple. Chairman sits up, looks around with welcoming smile then fixes his gaze first of the briefcase fiddler, Other

people's eyes switch to the fiddler, he feels the force of their attention, puts aside his briefcase and stops fiddling. Chairman now switches eyes to the chatterers, other people's eyes shift to them, they too feel the force (if they do not a neighbor will tap them on the shoulder). As they look up, a quick smile from the chairman and we are ready to start.

With these few seconds of silence, using his eyes and his posture to secure attention, the chairman creates the concentration for the meeting.

Then with his opening words, he creates the momentum. The pace at which he speaks sets the pace for the meeting. If he is stuttering and hesitant, he is creating that sort of pace for his meeting. If his words are hurried he is setting the standard for a rushed meeting. If he can set a businesslike balance between the extremes he has the standard of a businesslike meeting.

His opening words should include the following:

- Welcome
- Purpose
- Plan
- Time

As he works through these opening remarks, Scott (1990) suggests he should also be involving the members in the meeting, checking his plan with them, and ensuring their assent to the procedure.

'Good morning ladies and gentlemen and welcome to this meeting. As I see it, the purpose of this meeting is to

make plans for the future of the project in the light of revised dates for pump delivery. Is that how you see it? Jack, is that the purpose as you would see it?' (Note the detail of waffling on for three or four words after mentioning Jack's name. Just long enough for him to collect his thoughts and reply without that hesitation which would interrupt the momentum being established).

'May I suggest that we take matters in the following order.

- ° First, identify the revised delivery dates.
- ° Second, see which plans will be affected.
- ° Third, agree what decisions we need to take.
- ° Fourth, agree on the decisions.

'Will that be satisfactory to everybody? Eileen, will that enable you to make any points you wish to? George, alright for you?

'May I also suggest a couple of limits to the discussion. This is the sort of meeting at which I suggest it will pay us to avoid wasting time on the histories of pump deliveries, isn't it? No witch hunts please, ladies and gentlemen.

'And secondly, I don't think we want to hear excuses or justifications, do we?

'Our purpose is to plan for the future. We'll take whatever time is necessary, but may I suggest that we have our sights on 45 minutes. That is, we aim to finish by 9:45. Is that acceptable?

'Thank you ladies and gentlemen. The first main point to consider, then is to identify revised delivery dates. George, can you tell us about this one please?

### Conducting the Meeting

Now, as the meeting develops, the chairman has established momentum, involved the members, acquired assent to a procedure and set them off to solve the problem within a time frame. To meet that time frame he must concentrate hard on the discussion, to ensure that it keeps on track as he has suggested.

From now on he needs to talk relatively little himself. He controls the meeting with gestures of hand and face, movements of the eyes and changes of posture.



## **CHAPTER 5 NEGOTIATING TACTICS**

### **Tactics and Countertactics**

'Resourceful' negotiators use a myriad of ploys and tactics to throw the other party off balance. Unethical tactics impede constructive negotiations. They tend to irritate and alienate; they hurt more than they help. The criteria for determining if a tactic is unethical depends on the ethics of the observer (Dawson, 1985;Scott, 1990).

Tactics are an inherent part of negotiations. Even if one does not use tactics, he needs to understand the dynamics and motivation for using them. Because, even if you don't use them, they need to be recognized and countered when someone is using them against you (Dawson, 1985;Karrass, 1970).

While there is probably no all-inclusive list of tactics, the following are common to construction contract negotiations. They are arranged as aggressive and constructive tactics but this grouping could change depending on how you use the tactic.

## Aggressive Tactics and Countertactics

### **Tactic: Discomfort**

If you have the home field advantage you can make the climate as miserable as possible for your opponent. This can wear your opponent down to a lower level of resistance. Turning the heater up and closing all the windows is a common discomfort tactic.

### **Countertactic:**

Confronting your opponent about these tactics usually rectifies the situation. If not, break off negotiations. Never accept poor treatment. Make them come to your office to negotiate.

### **Discussion:**

This tactic is not advisable. An opponent who is made to feel uncomfortable may be aware of what is happening and resent it. He will try to get even the first chance he gets.

### **Tactic: The Deliberate Mistake**

Deliberately distort issues and figures to create confusion. Intentional mistakes in your proposal may hopefully be overlooked in your favor (Martin, 1982).

### **Countertactic:**

This tactic serves to confuse and deceive you. Point the errors out to the seller and become extremely angry that he estimates so carelessly (Civitello, 1987).

**Tactic: "You Will Have to Do Better Than That"**

This demand, when used by either side, applies immediate pressure to the receiver to do just that, better.

**Countertactic:**

Dawson (1985) recommends the response, "And just how much better do I have to do?"(p.43). This response puts the monkey back on the opponents back and alleviates the pressure.

**Discussion:**

You will have to do better than that's power is evidenced by Dawson's (1985) name to coin the phrase, "The Vise." But why does it work so well? Estimating is more of an art than a science. There are no right answers. Only interpretations on methods of accomplishing work, crew sizes, and production rates. There is always room for improvement. Neither side knows the exact cost of the work.

**Tactic: Good Guy/Bad Guy**

Make life miserable by sending an obnoxious negotiator along with a good guy ready to trade concessions. The obnoxious one opens with unreasonable demands and expects everything for nothing. After awhile he stops talking or even stomps out of the room with the good guy at his heels begging him to be reasonable. Once the good guy starts talking his demands sound very reasonable compared to his partner's. He's a pleasure to deal with and may

cause you to drop your competitive spirit. (Scott, 1990;Karrass, 1985).

**Countertactic:**

Try to see through the obnoxious negotiator's extremely one sided position and not jump to agree with the good guy's slightly less extreme one sided position.

**Tactic: The Friend at Court**

Threaten the buyer with taking the whole matter to a higher authority. Maybe you play golf with the president (Warden, 1989).

**Countertactic:**

State that he can take it where ever he wants. Be sure to inform your boss of the situation before he gets to him.

**Discussion:**

It is a dangerous tactic -- any boss worth his salt will protect his subordinate from such tactics and react against the tactic-maker. However, if two negotiators really are reaching an impasse, they might do well to push it up the chain of command and let their bosses settle it. This must of course be a rare case. Passing the buck does not earn the negotiator kudos. (Scott, 1990, p.184)

**Tactic: Cut and Run**

Break off or at least threaten to break off negotiations. Usually done to divert attention from an area of possible weakness (Scott, 1990).

**Countertactic:**

Difficult to counter. If you really need to reach agreement you may have to make some concession to keep him at the negotiating table. Otherwise call his bluff. If he threatens to cut and run but continues to sit contently at the table, he is probably bluffing. However, if he is gathering up his papers and putting them in his briefcase then he's probably serious. If you still want to bother with him offer him a concession (Scott, 1990).

**Tactic: Make Mountains Out of Molehills.**

Make enormous commotion about something insignificant that will hopefully allow you to squeeze something through later on the side (Scott, 1990).

**Countertactic:**

Difficult to counter. Watch out for a critical item being slipped in on the slide, followed by a quick "...any other business..."

**Tactic: Fait Accompli**

One party may claim that what is being asked for has already been accomplished and cannot be changed. For example, a supplier may say he shipped the order because

he knew that was what the buyer wanted; therefore it is not a necessary issue to be negotiated (Martin, 1982).

**Countertactic:**

Point out the fact that just because he made a mistake does not mean you have to pay for it. For example, state that he did not know what you wanted because the shipment you received does not meet the specifications.

**Tactic: Use of time**

Time is money and time is power. Time can also be used as a club. If the other party is in a hurry to reach agreement before a deadline we can gain advantage by slowing things down.

**Countertactic:**

Do not let the other party know your deadline. However, if they find out you may have to buy time. How much to buy depends on how much the time is costing you. If you must buy time be sure to get some counter-concession in return.

**Discussion:**

The Soviet Union is known well for this sort of tactic in the political negotiation arena. If they know their opponent's deadline is short they would put them under as much pressure of time as possible. For instance, when negotiating abroad, they would lease plush villas for years at a time. Time is of no concern to them. Their negotiation tactic would be to stall until the pressure

of their opponent's deadline forces them to make extraordinary concessions.

However, it should be noted that the natural sequence of any negotiation begins with high productivity which quickly tails off becoming less and less until a final burst of energy.

Scott (1990, p.76) gives an illustration of going to China for a three week negotiation. Things move fast for two or three days but slow down by the end of the first week. Week two goes very slowly and week three is at a snails pace until Thursday. Then a sudden burst of energy occurs, generating activity and development.

Westerners suspect this is a delay tactic. The Chinese equally suspect a Western delaying tactic.

Both are wrong. It follows the normal pattern in any negotiation -- early achievement yields to detailed discussions before the final spurt of energy.

**Tactic: Imposing a Deadline**

One party limits the time involved in negotiating -- a deadline to agree.

**Countertactic:**

Difficult to counter. A deadline can be a powerful tactic because it implies a possible loss to both parties involved. The other party does not necessarily have to accept the deadline as their own, but in most cases they usually do. (Martin 1982)

**Tactic: Plead Lack of Authority/The errand boy**

You are negotiating in good faith but any deal will have to be approved by your boss -- meaning, revised upward later (Scott, 1990;Warden, 1989;Martin, 1982).

**Countertactic:**

Make it part of your opening routine to establish the other party's authority to settle the deal.

**Tactic: Poker Face**

Give as little verbal or emotional response as possible during the negotiating process. Never give away any information. The goal is to get information but never give any (Martin, 1989;Scott, 1990).

**Countertactic:**

Try to use body language skills to interpret body signals emitted. (Discussed at the end of this chapter).

**Discussion:**

Some authorities recommend skilled negotiators be trained to recognize body language signs as well as to send false signals. Japanese negotiators take this very seriously. They dedicate one member of a negotiation team to studying body language (Fisher and Ury, 1981).

**Tactic: Manipulate the Minutes**

One party takes it on their own to prepare minutes of the previous day's negotiation. They hand you the minutes at the beginning of the next meeting. Do you read them then



and there and question their content? If so, you are probably bound for disagreement on grounds that you are not prepared to defend (Scott, 1990).

Or do you ignore the minutes and carry on with the days agenda? If so, the other party may claim tacit approval of the minutes.

**Countertactic:**

Awkward tactic to counter. If you have the resources it is best to have your side prepare the minutes. If not, you have to decline accepting the minutes until you've reviewed them. Watch out for the backlog! If you wait a week to review them you may be amazed by what you read. By that time it may be hard to rebuke the discrepancies. (Scott 1990)

**Tactic: The Hip Pocket**

Leave room to negotiate. Start out high and then make concessions, hoping to end up with your target price (Warden, 1989).

**Countertactic:**

Use the fair and Reasonable tactic discussed below, for instance, quote a commonly accepted pricing standard such as Means to show his prices are excessive. Become angry that he would inflate his prices. This should shame him into lowering his prices to an acceptable range.

**Tactic: The Empty Pocket**

Take a final stand and tell the buyer you have no more concessions to make (Warden, 1989).

**Countertactic:**

Hard to counter if you've made significant reductions to his original proposal. (which was probably already inflated using the Hip Pocket tactic). Probably a good time to take a break and reevaluate your position. If you still have significant price differences you need to show his prices are still excessive as indicated above.

**Tactic: Claim Unreasonableness**

Make the other party appear unreasonable. For instance, say the buyer concedes on a number of minor issues asked for by the seller. When a major issue comes up on which agreement cannot be reached, the buyer points out all of the areas in which he made concessions, thus making the seller appear unreasonable (Martin, 1982).

**Countertactic:**

Search your soul to see if you are being reasonable. If so, do not give in. Point out the magnitude of this issue compared to the minor issues he has conceded.

**Tactic: The Surpriser**

Keep the buyer off balance by constantly shifting your tactics. Never be predictable and make it difficult for him to anticipate your moves (Warden, 1989).

**Countertactic:**

Inform him that you recognize the ploy and do not feel it is productive to reaching a mutually acceptable agreement.

**Tactic: The Flinch**

Flinch in shock and disbelief at what your opponent is proposing. This visible reaction to a quoted price or proposal can quickly improve one's situation.

**Countertactic:**

Remain calm while your opponent convulses in disbelief, act shocked at his disbelief, or even laugh at his behavior (Dawson, 1985).

**Tactic: Playing Dumb**

Play dumb. When your opponent asks you something say, "Gee, I do not know. What do you think?"

**Countertactic:**

Attempt to keep moving. Go to other issues. Explain later again in negotiations. Remain competitive (NFCTC, 1986).

**Discussion:**

Acting dumb defuses the competitive spirit. A competitive negotiation is impossible if one of the parties is no match for the other. Once the "smart" negotiator realizes how dumb you are he will probably lower his guard and may even begin to help you. As Scott

(1990) puts it, "Virtually no sane adult would steal candy from a handicapped baby."

**Tactic: The Decoy**

Elevate and exaggerate the importance of a false issue to take attention away from the real issue. For example, insist that you must work on Saturdays even though the security office is closed on Saturdays. You may have no intention of doing so, if granted. Later, you will agree not to work on Saturdays, but only for a price. You have created a bargaining chip out of thin air (Scott, 1981; Dawson, 1985)

**Countertactic:**

Concentrate on the real issue. Dismiss the false issue without giving any concessions. For example, say "Your contract states working hours are Monday through Friday..."

**Constructive Tactics and Countertactics**

**Tactic: Constantly Use Recesses**

Take regular breaks at intervals. Scott (1990) recommends five minutes in the middle of a one hour negotiation; Half a day in the middle of a one week negotiation.

**Countertactic:**

You could object to taking the recess. However, this is one of the few universally positive tactics. It allows each party to summarize and reevaluate their position.

It revitalizes energy which may have been lost. Properly handled, it enables both parties to return refreshed and eager to seek solutions (Scott, 1990).

Discussion:

Scott (1990), lists three characteristics for 'Properly handled':

- ° Once a recess is proposed, take it quickly. Otherwise energy will flag further.
- ° On reconvening, a mini ice-breaking -- let the minds get re-attuned before getting back to business.
- ° Restart with summary of how far we've reached and agree on a new plan for the next phase.

The problem with recesses is the suspicion that the other party will use them to their advantage. It is a risk, but we probably need the same opportunity as much as the other party.

Tactic: **The Golf Club**

Recommended for team negotiations. The team leaders from each side stay detached from the conflicts and controversies between their team members. As impasse approaches, the leaders leave the scene of the heated controversy. They go to a place with a calm, light, and trusting atmosphere which fosters a meeting of the minds. In America, it is the golf club. In Britain, it is the 'club'. In Finland, it is the sauna (Scott, 1990).

Countertactic: None needed. It is a good tactic. Agree to it unless your company's policy prohibits creating the appearance of a conflict of interest.

Tactic: **Never Jump At the First Offer**

Don't immediately accept your opponents proposal. No matter how good the deal is. Always negotiate first.

Countertactic:

Be wary if your opponent has an uncharacteristic desire to close the deal early. (Look for foam around the mouth).

Discussion:

People put greater value on things they have to work for. If your opponent's proposal is accepted without question, he will immediately feel he has made a mistake. Therefore he will not be satisfied unless negotiation occurs (Scott, 1990; Dawson, 1985).

Tactic: **Fair and Reasonable**

Comparisons to other like situations may be used. For example, he may claim the price for the computer is equitable because that is what another company is paying (Martin, 1982).

Countertactic:

Try to find an independent price comparison such as Means, etc.

**Tactic: The Actor**

Put on a good show by demonstrating your deep commitment to your position. This adds to your credibility and sometimes generates sympathy from the buyer (Warden, 1989).

**Countertactic:**

Recognize the 'performance' and don't buy the act.

**Tactic: The Compromiser**

Let's split the difference is a frequently successful tactic (Warden, 1989).

**Countertactic:**

Difficult to counter since it provides a classic win-win situation. Don't fall for it. State that it is against your company's policy to split the difference.

**Tactic: The Devils Advocate**

Argue against the buyer by showing him all the possible bad results of doing things his way. Show him how he really may be better off by accepting your proposal (Warden, 1989).

**Countertactic:**

Listen carefully to his arguments. Indicate that you understand his position but that you do not agree with it.

## Non-Verbal Communication

Non-verbal communication constitutes more than sixty percent of all communication. Yet, negotiators use only five percent of the non-verbal gestures available. This is partly due to lack of awareness (Riggenbach, 1985, p.10).

### Body Language

Body language is a sub-conscious reaction which is hard to control. The person's true perspective and standpoint is emitted through their body language. "Actions do speak louder than words!" (Riggenbach, 1985)

Body language varies between countries and cultures and between business and social settings. The following body language gestures are characteristic of American negotiators.

### Handshakes

Ice breaking before a negotiation usually begins with a handshake. The handshake can tell you a lot about your opponent's attitude. A firm grip with eye contact indicates self-confidence and an eagerness to conduct business (Riggenbach, 1985). A firm grip with eyes dropping to the floor indicates a lack of self-confidence, possibly hiding information (Riggenbach, 1985). A limp handshake may demonstrate indifference or the inability to make decisions (Riggenbach, 1985). The one who turns his hand over desires to control and dominate the negotiation (Riggenbach, 1985).



Nervous and anxious people tend to have sweaty palms (Riggenbach, 1985).

### Superior Attitudes

Superior attitudes may be illustrated by several gestures. Forming a triangle or pyramid with one's hands and placing them under one's chin is a sign of superior evaluation. Expect questions (Riggenbach, 1985). Hands folded behind the neck and/or crossing one's legs indicates extreme self-confidence. He may be tough to communicate with in this position. He thinks he knows it all. Riggenbach (1985) suggests placing something on the desk in front of him to review. This brings him out of his superior position.

### Doubt

If a person has his hand on his mouth with his thumb locked under his chin he probably does not agree with what you are saying. Now is a good time to get his opinion (Riggenbach, 1985).

### Evaluation

Riggenbach (1985) stresses the importance of knowing when someone is listening to you. When they hear you your chances of agreement increase. For example, if one rubs his ear, he may be saying, "I heard what you said, and I am thinking about it."

The examples illustrated here are sound, but people are different and so is the meaning of their body language. For example, a person may have his arms crossing his chest because a) he is cold, b) he feels fat, c) it is comfortable for him to do so, or d) you have said something to make him feel defensive (and you may want to back off).

As with any communication skill, the interpretation of body language cannot be perfected in the classroom. It must be practiced in order to be used effectively. One should not depend solely on body language. It is only a clue to the other persons true feelings. Interpreting body language, tempered with common sense, can be very effective in making negotiations constructive (Riggenbach, 1985; Dawson, 1985).

### Silence

Silence is an extremely effective and simple to use form of non-verbal communication. It can function as a magnet to lure out information. It's use and importance should not be overlooked.

Silence during a conversation is embarrassing to most people. A five second pause in a conversation seems to last a lifetime. People will talk just to avoid their uneasiness. Unsolicited talking can furnish valuable information to the patient, quiet negotiator. An experienced negotiator is not prone to dispense a lot of information just to fill a void.

But an unseasoned or anxious negotiator will often divulge far more than he intended. The desire to replace silence with one more argument or justification is immense. One must not succumb to this desire (Karrass, 1974).

When using silence as a tool, listen very carefully. The importance of listening is well documented. Karrass (1974) considers listening a concession. "Listening is the least expensive concession one can make. It can well be the most important." It is a concession that does not cost you anything, yet it is very valuable to your opponent. He wants you to approve of what he says. He wants you to understand and believe him. Above all he wants to be heard. By listening intently you give him what he wants and you get valuable negotiating information in return. Both sides benefit from listening.

Body language and silence are effective negotiating tools. Spend the time to perfect these tools and make a conscience effort to use them whenever possible. Your efforts will be well rewarded.

## CHAPTER 6 SUMMARY AND CONCLUSIONS

The need for good negotiating skills in engineering and construction is well documented. "Negotiating constitutes part of every engineer's job responsibilities." (Gallant, 1989). This report focused on engineering and construction contract negotiations from both the buyer's and seller's perspectives.

Chapter One, Groundwork for Negotiations, concentrated on the early stages of negotiations. Foundations of mutual respect and trust should be laid well in advance of arriving at the negotiating table. We should be prepared both technically and mentally to transmit, receive and control information. Our goal is a cordial, cooperative, brisk, and businesslike climate.

Performing the Negotiation, Chapter Two, splits the negotiation process into two major stages: the exploratory and fact-finding stage; and the bargaining and agreement stage. The exploratory and fact-finding stage is an information gathering session. Assumptions, issues and objectives are evaluated for validity. Strategies are altered to reflect new information before entering the bargaining and agreement stage.

The bargaining and agreement stage involves moving towards an agreement which satisfies each party's needs. Principled negotiation, constructive bargaining, and

aggressive bargaining were three bargaining strategies discussed. The negotiator's strategy will be determined by several factors: the ethics and personality of the negotiator; his opponent's strategy and tactics; and the phase of the negotiation.

Chapter Three, Negotiations Before and During the Contract, examined strategies for the two principal periods of negotiations. Common sense dictates that the seller maintain a constructive approach to **Negotiations Before the Contract** whereas the buyer may gain temporary advantage by negotiating aggressively.

The tables are turned for **Negotiations During the Contract**. At this stage of the project, the seller may gain temporary advantage by negotiating aggressively while the buyer should maintain a constructive approach.

The eventuality of change orders in construction was the driving force behind **Negotiations During the Contract**. Documentation was stressed as a key factor for successfully pursuing change orders and avoiding litigation.

Described in Chapter Four, Multi-sided Negotiations, were the key elements for a chairman or team leader to consider in chairing negotiations. The chairman should focus all his energy and concentration on leading an effective meeting. His opening remarks are the most critical part of the meeting. After the opening, the chairman hopes to have established momentum, involved the members, acquired assent to a procedure

and set them off to solve the problem within an agreed upon time frame. To meet that time frame he must anticipate side-track issues and prevent them from interrupting the main issues.

After the opening he needs to talk relatively little himself. He controls the meeting with gestures of hand and face, movements of the eyes and changes of posture.

Negotiating Tactics, described in Chapter Five, are an inherent part of all negotiations. Even if one does not use tactics, it is necessary to understand the dynamics and reasoning behind them. Because, whether you use them or not, others will use them to gain maximum advantage. Forms of non-verbal communication such as body language and silence, can be powerful tools if used properly. Learning to use these tools and tactics, as well as to interpret and understand when others use them, can provide a distinct advantage for the negotiator.

In conclusion, good negotiating skills are key to reaching agreements. However, reaching an agreement in negotiations is not an end in itself. A good negotiator is tough. Do not let the desire to reach agreement make you abandon your fundamental goals. Know your BATNA and know when to walk away. Do not let yourself be intimidated. Try to negotiate constructively. But when others are aggressive, you must be aggressive. In short, the engineer may want to remember a phrase used by John F. Kennedy during his January

20, 1961 inaugural address: "Let us never negotiate out of fear, but let us never fear to negotiate." (Zoino, 1989)

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